REMARKS

No claims have been amended, added, or cancelled, whereby claims 1-15 and 37 are pending and presented for review. Favorable reconsideration and allowance are requested in light of the remarks which follow.

1. Allowed Claims

The Examiner indicates that each of claims 3-7, 9, and 14 is allowed. Applicants thank the Examiner for the indication of allowability.

2. Prior Art Rejections

The Examiner rejects claims 1, 2, 8, 11, 12, and 37 under 35 U.S.C. § 102(e) as being anticipated by German Patent Application No. DE 101 58 266 A1, listing inventors Bendel et al. and assigned to Bosch (herein "the Bosch application"). Claims 1, 2, 8, 10-13, 15, and 37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Bosch application. Applicants respectfully traverse the above-referenced rejections and assert that the Bosch application does not disclose each and every element of the novel and non-obvious independent claims 1 and 37.

a. Recapitulation of the Invention*

The invention relates to hand-held working tools, e.g., drilling or impact hammers, stampers, and others, having pneumatically damped or semi-active vibration isolated handles. This is done by way of an air spring provided generally between a tool body or vibration exciter and handle. Prior art damping or anti-vibration systems include rubber bumpers or spacers, helical compression springs provided between vibration exciters and handles. Some systems include actuators that are inline, i.e., work in series with the springs for adjusting spring preload. In such inline or in-series configurations, (i) the actuator interacts directly with the handle and spring, and (ii) the spring interacts directly with the actuator and the hammer housing. In other

* This Section 2(a) is presented for background purposes so the Examiner may understand the state of the art and, in general terms, the Applicants' contribution thereto. It is not intended to constitute a specific traversal of any particular rejection. That task instead is performed in Section 2(b) below.

words, in prior art systems with springs and preload adjusting actuators, since these components work in series with each other, a spring and actuator in combination extend between a hammer handle and a hammer housing, whereby neither the spring nor the actuator individually extends between and interacts with both the hammer handle and housing. In such prior art implementations, the actuator changes its length in an effort to keep a distance between the hammer housing and the handle approximately constant. If an operator applies more pressure to the handle, the spring is compressed, a length or distance measuring device detects the distance between the hammer housing and the handle, and signals the actuator to increase its length. Doing so correspondingly adjusts the spring preload, and it is noted that since a (helical) spring cannot change its stiffness, adjusting spring preload with an in-series or inline actuator predictably moves the spring stiffness along **a fixed load deflection curve**. Accordingly, such prior art systems require electronic sensors, electronically controlled actuators, which can be complex and expensive components, and can, in combination, form complex and expensive subassemblies or systems. Such expensive and complex systems can be damaged by or fail within the severe use environments that are typical of such vibration generating hammers and stampers. Furthermore, with **the actuator and spring working in series with each other**, the actuator and spring, in combination, **define a single path of load transfer** between the hammer handle and housing, whereby **the actuator is loaded with all forces between the hammer handle and housing, AND the spring is loaded with all forces between the hammer handle and housing.** When the actuator endures the entire loads between the hammer handle and housing, premature failure of the actuator can result.

In the present invention, an actuator is employed that has a pneumatic or air spring that can variably receive or release a volume of air and thereby exhibit a **variable load deflection curve** (spring stiffness curve). The actuator operates in **parallel** with, e.g., a helical spring. In such parallel-working configuration, both (i) the actuator interacts directly with the hammer handle and body, and (ii) the helical spring interacts directly with the hammer handle and housing. In other words, in the present invention, the parallel working configuration defines two distinct load transfer paths between the hammer handle and housing, one through the actuator

and a second through the spring. Accordingly, forces transferred from the hammer handle to the hammer housing or vice versa are distributed between the actuator and the spring, whereby the actuator never endures such forces in their entireties and can lead to relatively longer use-lives.

b. Traversal of Rejections

Applicants respectfully traverse the above-referenced rejections and assert that the Bosch application does not disclose each and every element of the novel and non-obvious independent claims 1 and 37.

Independent claim 1 recites a handheld working tool with a first unit that is excited by vibration during operation and a second unit that can be moved to a working direction (A) relative to the first unit, and a vibration isolation device between the first and second units. An actuating force, produced by at least one actuator within the vibration isolation device, at least partially compensates an operating force that acts in the working direction (A).

Furthermore, the actuator has a handle air spring whose filling with compressed air is able to be modified, and a spring device, parallel to the actuator, both extending between the first and second units. **By working in parallel to each other, e.g., by each of the actuator and spring interacting with both the handle and the housing, forces that are transmitted between the handle and housing are divided or distributed between the actuator and spring. In this regard, neither the actuator nor the spring carries an entire load that is transmitted between the hammer and housing.**

The Bosch application does not and cannot disclose or suggest **a spring device that is parallel to an actuator, where both the actuator and spring extend between or interact with first and second units of the handheld working tool.**

The Bosch application discloses a system with an actuator 5 that is coaxial or inline with a spring 4. Namely, a first portion of the actuator 5 interacts directly with a handle 3 of the tool, and a second portion of the actuator 5 interacts with a first portion of the spring 4. A second portion of the spring 4 interacts with a housing 2 of the tool. In this configuration, the actuator 5 and spring 4 work **IN SERIES** with each other, **defining a single load transmission path between the handle 3 and housing 2, whereby neither one of the actuator 5 and spring 4**

spans the entire way between the handle 3 and housing 2.

The expressly stated objective of the Bosch application is to provide a feed-back loop controlled vibration damping system that compensates for variations in spring length due to variations in user applied forces. The system accomplishes this by way of an inline arrangement of spring 4 and actuator 5, whereby the spring 4 and actuator 5 operate in series with each other. In such an in series or inline working configuration, the actuator 5 acts as a spring 4 length compensating device to ensure a constant length between the handle 3 and housing 2. Namely, when a user changes the amount of applied input force to the handle 3, the length of spring 4 correspondingly changes. A sensor 8 detects the length change and instructs the actuator 5 to adjust its length to attenuate any changes in a distance between the handle 3 and housing 2 (such distance changes occurring as a function of spring 4 length variation).

Intuitively, for the system of the Bosch application to suitably function and maintain a constant length between the handle 3 and housing 2, neither the spring 4 nor the actuator 5 can extend the entire distance therebetween. Rather, as disclosed as a critical feature(s) of the Bosch application, the actuator 5 and spring 4 work in series with each other to function as unitary length maintaining subassembly. In other words, since the actuator 5 extends or retracts to dynamically compensate for length variations of spring 4, the spring 4 and actuator 5 must work in series so that an overall distance between opposing (oppositely facing) ends of the actuator 5 and spring 4 is maintained at the desired distance between the handle 3 and housing 2. Correspondingly, the Bosch application requires **a working in-series** configuration for the spring and actuator. This in-series working relationship defines and requires a single load **a single path of load transfer** between the hammer handle 3 and housing 2. Therefore, according to the Bosch application "in series actuator and spring" design, ALL FORCES that transfer between the handle and housing MUST PASS THROUGH EACH of the actuator and the spring.

Accordingly, the Examiner's reassertion that "coaxial elements are also parallel" (Office Action dated June 18, 2008) is untenable for at least two reasons. First, the term

"parallel", as recited in claim 1, does not refer to parallel in a geometrical sense, but rather in a working, operational, or functional sense (think of, e.g., "parallel" capacitors or resistors), noting that the spring and actuator of the Bosch application DO AND MUST operate in series with each other. Second, the Examiner's reassertion that coaxial elements are also parallel ignores various other express limitations of claim 1. Namely, claim 1 further recites that (i) a vibration isolation device is situated effectively between first and second units, and (ii) a spring is between first and second units. In other words, claim 1 requires a **spring device that is parallel to an actuator, where both the actuator and spring extend between, or interact with, first and second units of the handheld working tool.** This arrangement is beneficial because it provides two distinct paths of load transfer between a first and second unit, such as a handle and housing, whereby forces transmitted between the first and second units are divided or distributed between the actuator and spring, with neither the actuator nor the spring having to transmit any such load in its entirety therethrough.

The Bosch application does not disclose each and every limitation of claims 2-15, whereby these claims are allowable as depending from allowable claim 1, directly or indirectly, as well as on their own merits.

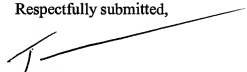
For instance, claim 4 it further recites that the actuator has a compressed air storage device that is able to be filled with compressed air by a drive piston, which the Bosch application does not and cannot teach.

Independent claim 37 is directed generally toward the subject matter of claim 1, wherein it is believed allowable for generally the same reasons above, and recites certain features with more specificity. For example, claim 37 recites a pneumatic spring with a variable preload value that maintains its length at a generally constant value. It is noted that the Bosch application discloses a system in which neither the actuator nor the spring is kept at a constant length, since they operate in series with each other for maintaining a constant distance between a handle and housing.

Conclusion

Applicants assert that claims 1-15 and 37 are in compliance with 35 U.S.C. §§ 102 and 103 and each defines patentable subject matter. A Notice of Allowance is therefore respectfully requested. No fee is believed due with this communication. Nevertheless, should the Examiner consider any fees to be payable in conjunction with this or any future communication, the Director is authorized to direct payment of such fees, or credit any overpayment, to Deposit Account No. 50-1170.

Respectfully submitted,



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